

MICROFEATURE WORKPIECE PROCESSING APPARATUS AND METHODS  
FOR BATCH DEPOSITION OF MATERIALS ON MICROFEATURE  
WORKPIECES

ABSTRACT

The present disclosure describes apparatus and methods for processing microfeature workpieces, e.g., by depositing material on a microelectronic semiconductor using atomic layer deposition. Some of these apparatus include microfeature workpiece holders that include gas distributors. One exemplary implementation provides a microfeature workpiece holder adapted to hold a plurality of microfeature workpieces. This workpiece holder includes a plurality of workpiece supports and a gas distributor. The workpiece supports are adapted to support a plurality of microfeature workpieces in a spaced-apart relationship to define a process space adjacent a surface of each microfeature workpiece. The gas distributor includes an inlet and a plurality of outlets, with each of the outlets positioned to direct a flow of process gas into one of the process spaces.